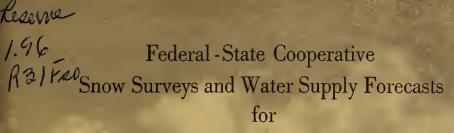
## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





# **OREGON**



OREGON AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U.S. Forest Service, National Park Service and other Federal, State and local organizations.

AS OF

May 1, 1954

#### TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued month-Iy January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in that bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge River Forecast Center U. S. Weather Bureau 712 Federal Office Building Kansas City 6, Missouri

For current information on local river and flood conditions, reference should be made to the appropriate River District Office listed

Meteorologist in Charge......Columbia River and Weather Bureau Office 320 Custom House Portland 9, Oregon

tributaries below Grand Coulee Dam, except the Snake River and tributaries.

Meteorologist in Charge......Oregon and California Weather Bureau Airport Station Box 1072 Medford, Ore.

Coast drainage, from and including Umpqua River Basin, southward to and including Klamath River and tributaries; the Great Basin in Oregon

State of Oregon

#### FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND MATER FORECASTS

FOR

OREGON

Report Prepared by

I. T. Frost, Hydraulic Engineer and Manes Barton, Assistant Water Forecaster

Issued

May 9, 1954

Soil Conservation Service and Oregon Agricultural Experiment Station 209 S. W. 5th Avenue Portland 4, Oregon

Harold L. Tower
State Conservationist
Soil Conservation Service

F. Earl Price Director Oregon Agricultural Experiment Station



## FOR ORLGON

May 1, 1954

Outlook for Oregon's 1954 water supplies remains "fair" to "excellent".

SNOW-COVER: Water content of mountain snow-cover has decreased normally through an orderly melting process. None of the snow courses measured showed increases over last month's water content, except Aneroid Lake No. 1. Snow-water is still short in all Eastern Oregon areas except the Wallowa Mountains. Ample snow-water is present in the Cascades.

SOIL-MOISTURE: Soils under the remaining snow-cover are well wetted.

RESERVOIRED WATER: Total water stored in 25 reporting reservoirs is 7 percent greater than the 10-year average (1942-51) and 6 percent greater than last year at this date. Reservoired water will "save the day" for many Eastern Oregon irrigated areas.

PRECIPITATION: State-wide precipitation , September through March, averaged 101 percent of the 10-year average (1942-51). April precipitation was 100 percent average state-wide and varied from 120 percent in Western Oregon to about 50 percent in the Central and Southeastern portions.

STREALFIOW: Outlook for April-September streamflow varies from adequate to somewhat deficient. Water supplies will be adequate in Western Oregon and in all areas where storage water is available. Eastern Oregon lands that will have late season shortages are in the Crooked, lower John Day, Umatilla, main Grande Ronde, Powder, Burnt, Malheur and Owyhee watersheds.

Stream discharge<sup>2</sup> during April varied from below to above average as follows: Grande Ronde 64%, walla Walla 90%, Umatilla 60%, John Day 68%, Deschutes 99%, Willamette 96%, Hood River 123%, McKenzie 120%, North Santiam 114%, Rogue River 129% and Upper Klamath Lake Inflow 198%.

<sup>1</sup>From preliminary data furnished by U. S. Weather Bureau, Portland, Oregon. <sup>2</sup>From preliminary data furnished by U. S. Geological Survey, Portland, Oregon and Oregon State Engineer, Salem, Oregon.



The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that <u>precipitation and temperature during the remainder of the runoff season will be approximately normal</u>. Appreciable deviations from normal of temperature and/or precipitation, during the forecast period, will correspondingly modify these forecasts.

	Seas	onal St	reamfl	ow in The	ousand A.	
BASIN AND STRUAM	Forecas				d Runoff*	10-Yr.
	Apr-	-	10-Yr.			Avg.
	Sept.	July	Avg.	1952	1951	1942-51
Columbia R., nr. The Dalles 12	4,000.0		127	С	99,025.0	97,779.0
NORTHCENTRAL OREGON						
Hood A., nr. Hood River2	318.0		94	324.7	358.8	339.7
Hood It., nr. Hood River2		260.0	90	235.7	305.0	289.6
Hood I., W. Fk., nr. Dee	155.0		95	155.8	156.4	162.7
Hood R., W. Fk., nr. Dee		135.0	95	135.9		141.4
white R., below Tygh Valley	144.0		85	171.2		170.0
hite R., below Tygh Valley		130.0	86	153.7	184.3	150.5
UnaTILLA MALLA WALLA Walla Malla R., So. Fk.,						
nr. Hilton	56.0		75	85.0	73.5	75.1
Walla Walla R., So. Fk.,	, - • •		' /			
nr. Milton		45.0	73	70.4	58.7	61.8
Umatilla R., nr. Gibbon	61.0		64	103.0	77.2	95.8
Umatilla R., at Pendleton	112.0		60	184.8	133.0	188.1
Umatilla R., at Pendleton		110.0	60	180.5	133.8	183.5
McKay Cr., nr. Pilot Rock	17.0		53	23.3	17.6	32.0
.cKay Cr., nr. Filot Rock		16.7	53	23.2	17.6	31.8
NORTHEASTERN OREGON						
Grande Ronde R. at La Grande	141.0		70	183.2	165.1	200.7
Catherine Cr., nr. Union	64.0		89	90.6	62.7	72.0
Bear Cr., nr. Wallowa	71.0		97	79.7	56.5	73.3
Lostine R., nr. Lostine	128.0		99	145.8	110.0	129.0
Hurricane Cr., nr. Joseph	44.0		94	55.3	41.0	46.7
Wallowa R., E. Fk., nr. Joseph			87	12.6	9.8	11.5
Wallowa R., E. Fk., nr. Joseph		8,0	85	10.3	7.5	9.3
Imnaha R., at Imnaha	275.0		91	424.3	267.5	300.7
Powder R., at Salisbury	51.0		79	88.7	69.8	64.7
Fowder R., at Salisbury	,	48.0	79	87.1	68.8	62.7
Burnt R., nr. Hereford4	29.0		64	65.2	43.0	45.1

<sup>\*</sup>Discharge data from preliminary records of U. S. Geological Survey and

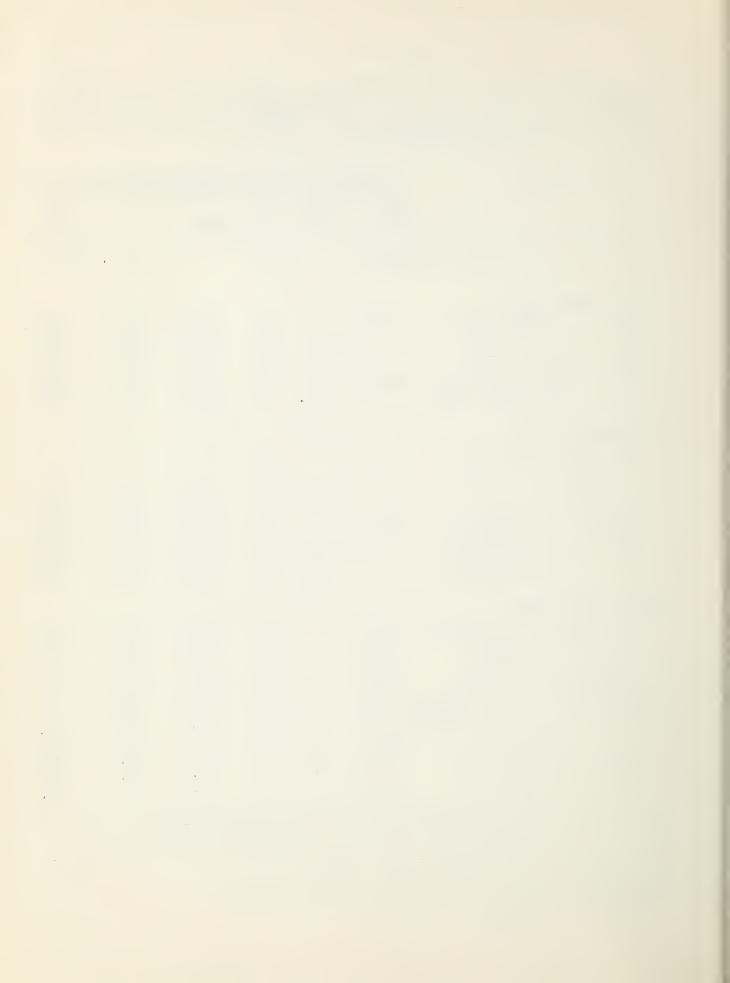
Oregon State Engineer. 1953 records not available at this time.

Forecast by Boise Office, Soil Conservation Service. Corrected for storage.

20bserved flow plus P.P.&L. Co. power canal.

<sup>3</sup>Includes power plant tailrace.

<sup>40</sup>bserved flow plus change in storage in Unity Reservoir. cRecords not available.



Streamflow Forecasts - May 1, 195	4 (Cont	'd)				
				low in The		
BASIN AND STREAM		st 1954	%	Measured	Runoff	•
	Apr-	Apr-				Avg.
	Sept.	July	Avg.	1952	1951	1942-51
ENGE, DN ODUGON						
EASTERN OREGON			<b>.</b>	700.0	mo o	nı e
Malheur R. nr. Drewsey	48.C		64	192.2	72.3	74.5
Malheur R., N.Fk., at Beulah <sup>5</sup>	41.0		68°	122.0	54.4	60.1
Owyhee Res., net inflow	240.0		57	1,434.8	417.8	415.8
Owyhee Res., net inflow <sup>6</sup>		200.0	51	1,432.4	396.2	395.0
John Day R. at Frairie City/	50.0		95	67.2	44.3	52.8
John Day R. at Prairie City	2-0-0	45.0	94	58.0	40.6	47.9
John Day R., Mid. Fk. at Ritter	120.0		92	172.6	115.4	
John Day R., N. Fk., nr. Dale	245.0		92	309.8	255.8	266.4
Strawberry Cr.,nr.Prairie City	7.5		89	10.5	7.9	8.4
HARNEY BASIN						
Silvies R., nr. Burns	150				116.4	100.4
Donner und Blitzen R., nr.	45.0		45	С	110.4	100.4
Frenchglen	<i>[</i> ] 0		d)	123.4	58.7	63.9
Trout Cr., nr. Denio	54.0		84	24.5	8.2	8.5
Trode or , m. bento	7.0		82	24.7	0.2	0.)
CENTRAL OREGON						
Ochoco Res., net inflow8	15.0		46	44.9	38.4	32.8
Crooked R., nr. Post	65.0		51	205.8	128.0	128.3
Crescent Cr. at Crescent Lake9	35.0		153	47.2	41.8	22.9
Little Deschutes R., nr. Lapine9	100.0		105	c	126.1	95.1
Little Deschutes R., nr. Lapine9	100.0	95.0	114	c	98.5	83.0
Odell Cr., nr. Crescent	31.3	//•0	101	44.1	36.0	30.9
Deschutes R., below Snow Cr.	66.0		100	c	101.1	65.8
Crane Prairie Res., inflow 10	141.0		109	С	182.9	129.4
Deschutes R., at Pringle Falls 11	307.0		109	С	380.4	282.5
Deschutes R., at Pringle Falls	201.0	192.0	119	c	161.1	161.9
Deschutes R., at Benham Falls	560.0	±/~•0	108	С	707.1	519.0
Deschutes R., at Benham Falls 12	,00.0	381.0	109	c	473.4	
Tumalo Cr., nr. Bend <sup>13</sup>	51.0	JUL   U	101	С	59.0	50.7
Squaw Cr., nr. Sisters	54.0		105	С	62.4	51.3
•	J-4• U		10)			

<sup>\*</sup> Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1953 records not available at this time. Observed flow + change in storage in Agency Valley Reservoir.

6 From U.S.B.R. records of inflow.

8 Observed flow of Ochoco Cr. + Canal + changes in storage of Ochoco Res.

Observed flow + changes in storage of Crescent Lake Reservoir.

CRecords not available.

<sup>7</sup> Observed flow + Prairie Power Canal.

From State Engineer's file #3220a, tabulating total inflow to Crane Prairie Reservoir and outflow, showing the loss in the Reservoir. 11 Observed flow+ changes in storage in Crane Prairie and Wickiup Res. 120bserved flow + changes in storage in Crane Prairie, Wickiup and Crescent Lake Reservoirs.

<sup>13</sup> Observed flow + Columbia Southern Canal.



Streamflow Forecasts - May 1, 1954 (Cont'd)

Streamflow Forecasts - May 1, 1950	+ (Cont	'a)				
		Seasona]	LStream	mflow in	Thousand	A.F.
BASIN AND STREAM	Foreca	st 1954	%	Measured	Runoff*	10-Yr.
	Apr-	Apr-	10-Yr.			Avg.
	Sept.		Avg		1951	1942-51
SOUTHCENTRAL OREGON						
Twentymile Cr. nr. Adel		16.5 <sup>a</sup>	102	77.1	14.2	16.2
Deep Cr., above Adel		70.0a	105	129.2	71.9	66.6
Honey Cr. nr. Plush		15.5a	105	29.9	15.8	14.8
Drew Reservoir, net inflow	29.0		145	С	23.3	20.0
Chewaucan R., nr. Paisley	,	95.0a	138	150.3	88.4	68.8
•		,,,,,,				
KLAMATH BASIN						
Sprague R., nr. Chiloquin	335.0		143	561.6	282.2	232.8
Williamson R., below Sprague R.	525.0		138	831.3	457.6	380.4
Williamson R., below Sprague R.		442.0	140	746.5	391.4	315.6
Upper Klamath Lake, net Inflow 4	690.0		141	1,151.2	611.0	486.7
Upper Klamath Lake, net Inflow 14		565.0	145	1,005.3	509.3	388.8
Clear Lake Res., net Inflow	37.0		91	157.0	32.4	40.7
Gerber Res., net Inflow	19.0		101	79.2	12.3	18.8
SOUTHERN CREGON						
Applegate R., nr. Ruch	188.0		168	С	99.9	111.7
Illinois R., at Kerby	205.0		115	241.8	114.4	177.9
Hyatt Res., net Inflow 15	6.4		112	9.0	3.8	5.7
Fourmile Lake, net Inflow 16	7.0		92	10.0	3.5	7.6
Little Butte Creek, N. Fk.,						
below Fish Lake <sup>17</sup>	13.6		89	С	15.6	15.3
Rogue River above Prospect	350.0		109	477.1	345.5	320.3
Rogue River above Prospect		305.0	114	404.9	282.3	267.8
Rogue River, Mid. Fk., nr.						
Prospect <sup>18</sup>	73.0		96	С	77.8	76.1
Rogue River, Mid. Fk., nr.						
Prospect <sup>18</sup>		58.0	96	С	59.7	60.2
Rogue R. So.Fk.,nr.Prospect19	75.0		96	С	76.2	77.9
Rogue R. So.Fk.,nr.Prospect 19		64.0	96	С	64.4	66.5

<sup>\*</sup>Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1953 records not available at this time.

14From COPCO records of inflow.

16Observed outflow into Cascade Canal + storage changes + 1600 a.f. for estimated evaporation during April-September period.

<sup>150</sup>bserved flow of Keene Creek at Hyatt Prairie + storage changes + 1600 a.f. for estimated evaporation during April-September period.

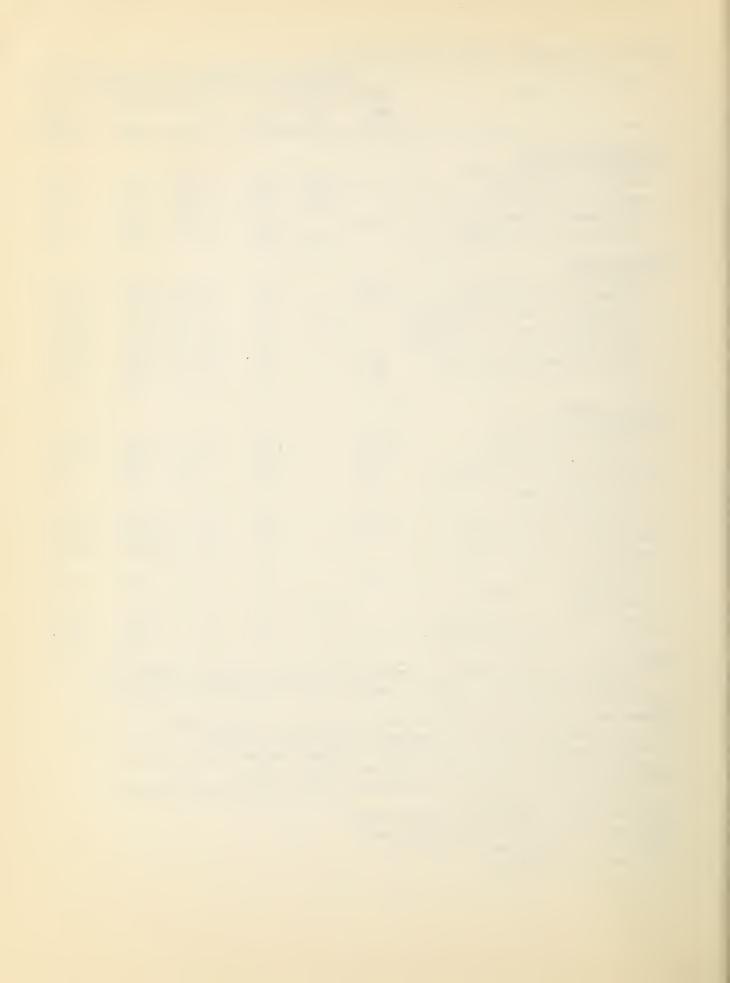
<sup>170</sup>bserved flow plus changes in storage in Fish Lake Reservoir + 90% of Cascade Canal inflow.

<sup>18</sup> Observed flow + Middle Fork Power Canal.

<sup>190</sup>bserved flow + South Fork Power Canal.

aApril-June rather than April-July.

CRecords not available,



Streamflow Forecasts - May 1, 1954 (Cont'd)

Streamflow Forecasts - May 1, 195	4 (Cont'	d)	·····			
	S	easonal	Stream	flow in T	housand	A.F.
BASIN AND STREAM	Forecas		%		Runoff*	10-Yr.
	Apr-	Apr-	10-Yr。			Avg.
	Sept.	July	Avg		1951	1942-51
SOUTHERN OREGON (Cont'd)						
Rogue R., below South Fork	715.0		104	С	739.0	686.5
Rogue h., below South Fork	1-200	590.0	106	С	588.5	557.2
Rogue R., at haygold, nr.		<i>)</i> /0.0	100	_	, ,	
Central Point	970.0		106	С	887.7	912.8
Rogue R., at Raygold, nr.	710.0		700	Ţ.	,-,	,
Central Point		835.0	109	c	727.4	766.2
Rogue R., at Grants Pass	930.0	0)).0	106	c	823.9	878.7
Clearwater R., above Trap Cr.	73.0		112	86.7	80.8	65.4
No. Umpqua River, below	15.0		ユユス	00.1	00,0	07.4
Lake Creek	190.0		112	217.6	195.7	169.1
No. Umpqua River, at Toketee	1/0.0		<b>11</b> 2	2110	エノン・ロ	10/•1
Falls20	428.0		109	519.4	445.3	393.8
	420.0		10)	) <del>-</del> /•4	447 • 7	272.0
WILL-METTE VALLEY						
Row River, near Dorena	117.0		108	С	64.0	108.7
Row River, near Dorena		113.0	108	104.3	61.9	104.4
Willamette R., lid.Fk.		,	200		/	
at Lowell <sup>21</sup>	920.0		103	1,105.1	796.9	889.3b
Willamette R., Mid. Fk.	,			_,_ ,	( ) /	
at Lowell <sup>21</sup>		814.0	103	872.0	696.9	789.5b
McKenzie R., at McKenzie Bridge	608.0	,	103	674.2	658.4	591.6
McKenzie R., at McKenzie Bridge		467.0	103	512.2	501.5	452.0
McKenzie R., near Vida	1290.0	74-14-			1,276.0	1,266.6
McKenzie R., near Vida	12,0.0	1060.0			1,025.0	1,041.8
South Santiam at Waterloo	553.0	<b>100001</b> 0	92	640.3	464.3	600.9
South Santiam at Waterloo	777•∪	518.0	91	610.3	442.6	568.0
No. Santiam at Hehama <sup>21</sup>	955.0	710.0		1,016.4	798.4	
No. Santiam at mehama <sup>21</sup>	777.0	857.0	107	917.3	706.8	
Willamette R. at Salem <sup>21</sup>	4996.0		98		4,281.3	
Willamette R. at Salem <sup>21</sup>	4//0.0	4475.0			3,749.4	4,585.5
Clackamas R., at Big Bottom	180.0	4417.0	104	192.0	192.8	173.2
Clackamas R., at Big Bottom	±00.0	148.0	105	158.2	155.9	141.0
Oak Grove Fk. abv. Power Intake	198.0	±140.0	101	208.7	229.4	196.0
Oak Grove Fk. abv. Power Intake		157.0	102	164.8	180.8	154.3
Clackamas R., above Three Lynx	699.0	±)1.0	110	711.8	681.7	636.0
Clackamas R., above Three Lynx	3//•0	604.0	111	617.9	575.6	542.0
Clackamas R., Nr. Cazadero	918.0	004.0	111	883.1	817.0	829.8
Clackamas R., Nr. Cazadero	723.0	804.0	112	770.3	699.8	717.5
·		004.0		110.5	0//40	1-1-0

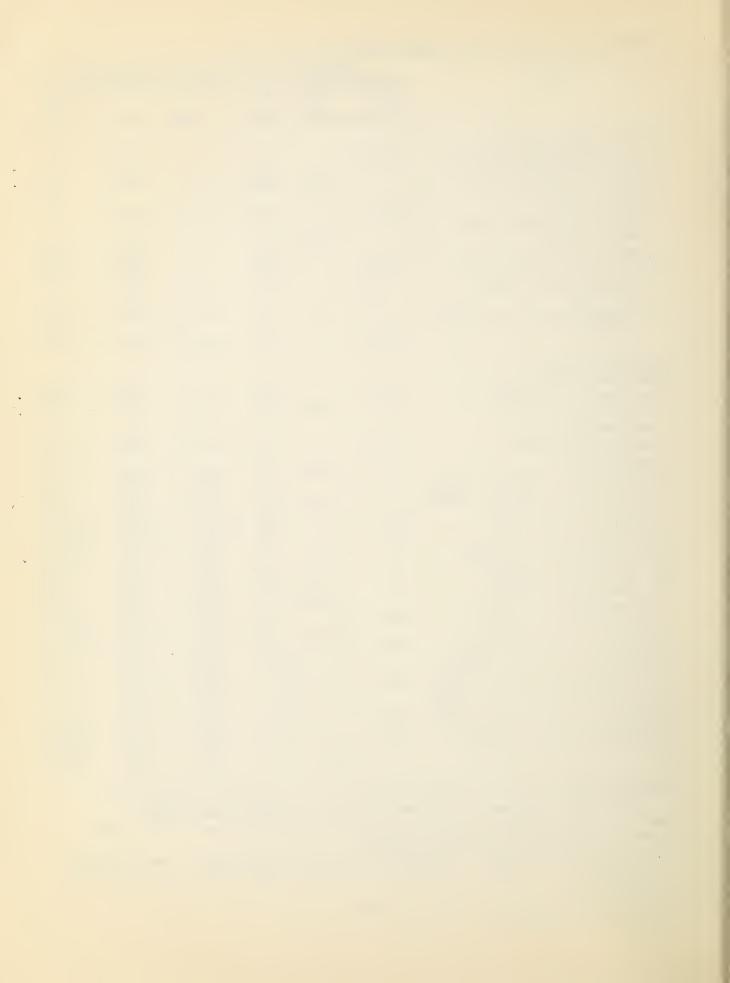
<sup>\*</sup>Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1953 records not available at this time. 20Sum of observed flow at North Umpqua River above Clearwater River (#7424)

and Clearwater River at Houth (#7423)

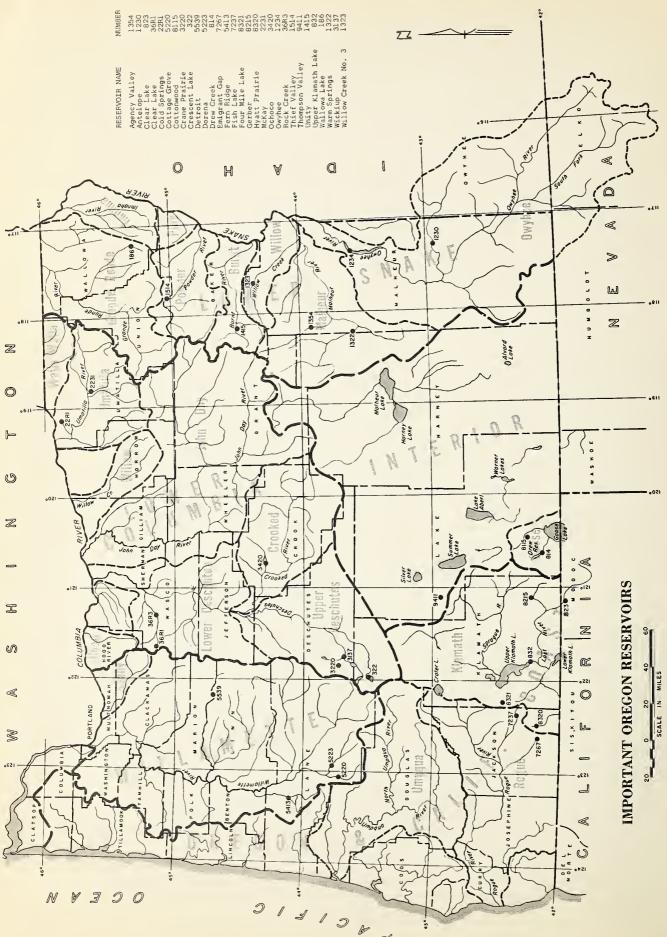
<sup>21</sup>Observed flow + changes in storage in any of the following reservoirs which are above the station: Lookout Point, Detroit, Fern Ridge, Cottage Grove and Dorena.

bEstimated as percentage of flow at Eula.

CRecords not available.







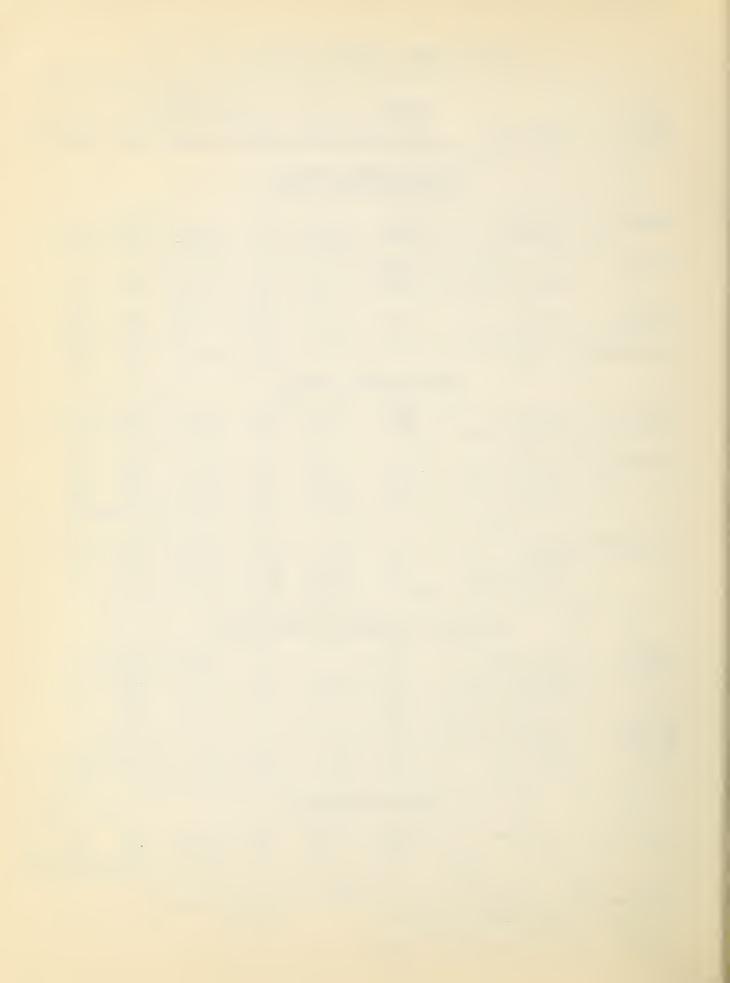
BASIN		USABLE	THOUSAND ACRE FEET IN STORAGE ABOUT MAY FIRST								
and		CAPACITY			MAI FILL	71	10-Yr.Avg.				
GTREAM	RESERVOIR	(M.A.F.)	1954	1953	1952	1951	1942-51				
	7.197	ACTION OF THE	מדו מיים אדו	VI A COR							
UPPER COLUMBIA DRAINAGE  Lower Snake in Oregon											
Or wale a c	A	D.C					.1				
Owyhee	Antelope Owyhee	36.5 715.0	31.3 503.0	29.2 553.9	30.8 699.8.	35.0 715.0	31.1 <sup>d</sup> 652.1				
	·	(4,200	٠٠ ر٥٤	JJJ•7	0/9.07	117.0	0)2.1				
Malheur	Warm Springs	191.0	147.2	194.9	186.1	120.4	131.5				
	Agency Valley	60.0	46.7	60.0	60.1	50.0	55.3				
Burnt	Unity	25.2	25.2	25.2	17.2	23.5	22.3				
Grande Ronde	Wallowa Lake	40.9	33.3	29.8	15.6	20.8	23.6				
LOWER COLUMBIA DRAINAGE											
Umatilla	McKay	771 0		m= =	<b>50 0</b>	(3.5					
Omatilia	Cold Springs	74.0 50.0	53.5 50.0	71.1 48.6	59.8 45.5	68.2 48.1	70.1				
			JO • O	40.0	47.7		48.9				
Deschutes	Ochoca Crescent Lake	46.0	46.5	47.2	43.6	46.8	37.5				
	Crane Prairie	54•9 55•3	37.1 59.2	50.0 51.0	46.5 51.5	48:1 57.0	44.4				
	Wickiup	187.3	198.7	196.5	157.6	183.7	43.3 105.8 <sup>e</sup>				
Willamette	Cottage Grove	30.1 <sup>a</sup>	20. 0	28.8	28.1	23.8					
***************************************	Dorena	70.5ª	22.9 50.4	53.9	53.8	49.8	26.8 <sup>e</sup>				
	Fern Ridge	94.2ª	88.8	87.1	76.8	72.6	73.7				
	Detroit	340.0ª	308.6	68.2							
	OREGON A	ND CALIFO	RNIA COAS	ST DRAIN	AGE						
Rogue	Fish Lake	7,8	7.7	7.1	6.5	6.9	r r				
***************************************	Fournile Lakeb	16.1	16.1	15.5	8.7	12.7	5.5 9.1				
	Emigrant Gap Hyatt Prairie <sup>b</sup>	8.3	8.3	8.3		7.8	8.2				
	nyact Prairie	16.1	16.1	16.1	12.2	9.6	9.0				
Klamath	Upper Klamath L	- ,	540.3	534.0			485.4				
	Gerber Clear Lake		80.3			59.9	57.7				
	OTEGI Dave	440.2	325.2	290.2	275.9	145.5	248.5				
		INTERIOR	DRAINAGI	<u> </u>							
Goose Lake	Cottonwood	4.1		4.7			3.5 <sup>f</sup>				
	Drew	62.5	62.9	64.8	62.5	62.9	55.3				

aStorage space reserved for flood control. bBy ditch to Rogue River side from

Klamath Drainage.

cBased on gage zero elevation of 4135.0.

d 1948-50 excepted e1943-51 f1944-51



	OUTTON SI	NOW SUL	- 61av.	ADOUT	MAY 1,	1904			
			SNOW COVER THASUREMENTS						
DRAINAGE BASIN and SNO. COURSE	No. or State	Elev.	Date of Survey		Water Content (In.)		Content		Years of Record
	<u>U P P E R</u>	C O I	U M B SNAKE	I A IN OR	DRAI EGON	I A G	<u>E</u>		
ONYHEE RIVER									
Silver City South Mtn. No.2	Idaho 12 Idaho 13		5-1 5-1	0.0	0.0	6.6 T	17.6	5.4 T	8 1
MALHEUR RIVER									
Blue Mtn. Springs	133	5900	5-4	1.8	0.8		7.4	4.2	4
BURNT RIVER									
Docley Mountain *Gold Center Tipton Blue Mtn. Summit	156 249 142 141	5430 5340 5100 5098	5-4 4-30 5-4 5-3				revious revious 0.0 0.0	record 0.0	1 4
POWDER RIVER									
Anthony Lake Bourne Dooley Mountain **Gold Center	155 154 156 249	7125 5800 5430 5340			2.4	No p	revious revious revious revious	record record	
IMNAHA RIVER									
*Aneroid Lake No.1 *Aneroid Lake No.2	183 183A	7480 7000		78.4 58.2			46.8 34.5		7 4
GRANDE RONDE RIVER	2								
Aneroid Lake No.l Anthony Lake	183 155	7480 7125	4-29	78.4 61.0		No p	46.8 revious	record	
Aneroid Lake No.2 Beaver Reservoir Tollgate Meacham	183A 188 212 221	7000 5340 5070 4300	4-29	0.0	0.0 8.7	8.9 16.6 0.0	34.5  16.4 0.0	8.9	4 1 4 4
	LOWER	COL	<u>U M B</u>	<u>I</u> A	DRAII	N A G	E		
UMATILLA RIVER									
Arbuckle Mtn. Tollgate Meacham Amigrant Springs	241 212 221 222	5400 5070 4300 3925	4-29 4-29	5.0 18.2 0.0 0.0	8.7	16.6 0.0 0.0	16.4 0.0 0.0		2 4 4
*Not located direct					$a_{\mathrm{T}}$	elegra			

<sup>a</sup>Telegraphic <sup>b</sup>Partly estimated



DRAINGL B.SIN   No. and   Or SNOW   Occurs   State   Elev.   Survey (In.)   (In.)   1953   1952   Avg.   Record										
DRAINAGL B.SIN   No. and   Or and   Or or show   State   Elev.   Survey (In.) (In.)   1953   1952   Avg.   Record				SNOW COVER MEASUREMENTS						
and or SNOW COURSE State Elev. Survey (In.) (In.) 1953 1952 Avg. Record  **ILIOW CREEK**  Arbuckle Mtn. 241 5400 4-30 5.0 0.5b 6.2 2  **MALL PALLE RIVER**  Tollgate 212 5070 4-29 18.2 8.7 16.6 16.4 18.3 4  **JOHN DAY RIVER**  Anthony Lake 155 7125 4-29 61.0 27.0b No previous record Blue htn. Springs 133 5900 5-4 1.8 0.8 7.4 4.2 4  Arbuckle itn. 241 5400 4-30 5.0 0.5b 6.2 2  Gold Center 249 5340 4-30 0.0 0.5b 6.2 2  Gold Center 249 5340 4-30 0.0 0.5 No previous record strees with the s							Pa	ast Reco	rd	
SNOW COURSE   State   Elev.   Survey (In.)   (In.)   1953   1952   Avg.   Record		No.							,	
### Arbuckle Htn.		_								
Arbuckle Htn. 241 5400 4-30 5.0 0.5b 6.2 2  WHILL MALES RIVER  Tollgate 212 5070 4-29 18.2 8.7 16.6 16.4 18.3 4  JOHN DAY RIVER  Anthony Lake 1.55 7125 4-29 61.0 27.0b No previous record Blue lith. Springs 133 5900 5-4 1.8 0.8 7.4 4.2 4  Arbuckle lith. 24.1 5400 4-30 5.0 0.5b 6.2 2  Gold Center 249 5340 4-30 0.0 0.0 No previous record *Izee Summit 964 5293 4-28 0.0 0.0 0.0 3  Starr Ridge 247B 5156 4-28 0.0 0.0 0.0 3  Tipton 142 5100 5-4 0.0 0.0 0.0 0.0 1  Blue Mtn. Summit 141 5098 5-3 0.0 0.0 0.8 0.0 0.6 4  Beach Creek Summit 246A 4800 4-28 0.0 0.0 0.2 2  DESCRUTES RIVER  New Dutchman Flat 324A 6400 4-29 119.4 60.3 66.6 72.7 64.2 9  Mindigo Fass <sup>2</sup> 744 5800 5-4 87.2 46.1 55.1 66.3 54.4 5  Willamette Pass 323 5600 5-4 87.2 46.1 55.1 66.3 54.4 5  Willamette Pass 323 5600 5-4 89.3 48.4 51.4 62.0 51.1 5  Tangent 3210 5400 4-29 18.4 7.8 13.6 15.3 14.4 2  Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8  New Crescent Lake 325A 4800 5-1 0.0 0.0 0.0 8.2 4.0 6.1 2  *Chemult 834 4760 5-1 0.0 0.0 0.0 3.2 4  Hogg Pass 331 4600 4-30 138.4 70.8 13.6 15.3 14.4 2  Crescent Lake 325A 4800 5-1 0.0 0.0 0.0 0.0 3.2 4  Hogg Pass 361 4755 5-1 86.6 43.4 48.7 55.8 56.0 7  Blue Kin. Sumit 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  WILLAMETTE VALLEY STREAMS  SANDY RIVER¹  Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  *Clear Lake³ 361 3500 4-29 17.1 7.8 7.1 13.9 3	SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	1953	1952	Avg.	Record
Arbuckle Htn. 241 5400 4-30 5.0 0.5b 6.2 2  WHILL MALES RIVER  Tollgate 212 5070 4-29 18.2 8.7 16.6 16.4 18.3 4  JOHN DAY RIVER  Anthony Lake 1.55 7125 4-29 61.0 27.0b No previous record Blue lith. Springs 133 5900 5-4 1.8 0.8 7.4 4.2 4  Arbuckle lith. 24.1 5400 4-30 5.0 0.5b 6.2 2  Gold Center 249 5340 4-30 0.0 0.0 No previous record *Izee Summit 964 5293 4-28 0.0 0.0 0.0 3  Starr Ridge 247B 5156 4-28 0.0 0.0 0.0 3  Tipton 142 5100 5-4 0.0 0.0 0.0 0.0 1  Blue Mtn. Summit 141 5098 5-3 0.0 0.0 0.8 0.0 0.6 4  Beach Creek Summit 246A 4800 4-28 0.0 0.0 0.2 2  DESCRUTES RIVER  New Dutchman Flat 324A 6400 4-29 119.4 60.3 66.6 72.7 64.2 9  Mindigo Fass <sup>2</sup> 744 5800 5-4 87.2 46.1 55.1 66.3 54.4 5  Willamette Pass 323 5600 5-4 87.2 46.1 55.1 66.3 54.4 5  Willamette Pass 323 5600 5-4 89.3 48.4 51.4 62.0 51.1 5  Tangent 3210 5400 4-29 18.4 7.8 13.6 15.3 14.4 2  Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8  New Crescent Lake 325A 4800 5-1 0.0 0.0 0.0 8.2 4.0 6.1 2  *Chemult 834 4760 5-1 0.0 0.0 0.0 3.2 4  Hogg Pass 331 4600 4-30 138.4 70.8 13.6 15.3 14.4 2  Crescent Lake 325A 4800 5-1 0.0 0.0 0.0 0.0 3.2 4  Hogg Pass 361 4755 5-1 86.6 43.4 48.7 55.8 56.0 7  Blue Kin. Sumit 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  WILLAMETTE VALLEY STREAMS  SANDY RIVER¹  Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  *Clear Lake³ 361 3500 4-29 17.1 7.8 7.1 13.9 3	TETOUR OTHERW									
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Gold Center 249 5340 4-30 0.0 0.0 No previous record **Izee Summit 964 5293 4-28 0.0 0.0 1.0 3 Starr Ridge 247B 5156 4-28 0.0 0.0 0.0 3 Tipton 142 5100 5-4 0.0 0.0 0.0 0.0 1 Elue Mtn. Summit 141 5098 5-3 0.0 0.0 0.0 0.0 0.0 1 Elue Mtn. Summit 141 5098 5-3 0.0 0.0 0.8 0.0 0.6 4 Beach Creek Summit 246A 4800 4-28 0.0 0.0 0.2 2    DESCRUTES RIVER								1 • 4		2
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Windigo Pass <sup>2</sup> 744 5800 5-4 87.2 46.1 53.1 66.3 54.4 5 Three Creeks Mdws. 331 5600 4-30 26.3 13.2 17.9 14.4 17.8 5 willamette Pass 323 5600 5-4 89.3 48.4 51.4 62.0 51.1 5 Tangent 3210 5400 4-29 18.4 7.8 13.6 15.3 14.4 2 Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8 New Crescent Lake 325A 4800 5-1 0.0 0.0 8.2 4.0 6.1 2 *Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7 Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4 Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7 Black Pine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  WILLAMETTE VALLEY STREAMS  SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3										
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Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8  New Crescent Lake 325A 4800 5-1 0.0 0.0 8.2 4.0 6.1 2  *Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7  Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4  Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7  Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2  Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2  Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3  **ILLAMETTE VALLEY STREAMS  SANDY RIVER Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  **Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3	•		5800	5-4	87.2	46.1	53.1	66.3	54.4	5
Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8  New Crescent Lake 325A 4800 5-1 0.0 0.0 8.2 4.0 6.1 2  *Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7  Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4  Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7  Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2  Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2  Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3  **ILLAMETTE VALLEY STREAMS  SANDY RIVER Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  **Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3	Three Creeks Mdws.	331	5600	4-30	26.3	13.2	17.9	14.4	17.8	5
Cascade Summit 321 4880 5-1 52.7 25.7 30.2 37.2 32.4 8  New Crescent Lake 325A 4800 5-1 0.0 0.0 8.2 4.0 6.1 2  *Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7  Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4  Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7  Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2  Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2  Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3  **ILLAMETTE VALLEY STREAMS  SANDY RIVER Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  **Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3	willamette Pass	323	5600	5-4	89.3	48.4	51.4	62.0	51.1	5
New Crescent Lake 325A 4800 5-1 0.0 0.0 8.2 4.0 6.1 2 *Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7 Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4 Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7 Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  **ILIAMETTE VALLEY STREAMS  SANDY RIVER¹ Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 **Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3		3210	5400	4-29	18.4	7.8	13.6		14.4	2
*Chemult 834 4760 5-1 0.0 0.0 0.4 1.2 0.4 7 Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4 Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7 Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  **ILLAMETTE VALLEY STREAMS  SANDY RIVER Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 **Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3		_	4880	5-1	52.7	25.7	30.2	37.2	32.4	
Crescent Lake 325 4760 5-1 0.0 0.0 0.0 0.0 3.2 4 Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7 Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3  WILLAMETTE VALLEY STREAMS  SANDY RIVER Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 **Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3				5-1, .	0.0	0.0	8.2	4.0	6.1	
Hogg Pass 351 4755 5-1 86.6 43.4 48.7 55.8 56.0 7 Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3  MILIAMETTE VALLEY STREAMS  SANDY RIVER 1 Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 *Clear Lake 3 361 3500 4-29 17.1 7.8 7.1 13.9 3				5-1	0.0	0.0	0.4	1.2		7
Black Fine Spg. 333 4600 4-30 0.0 0.0 0.0 0.0 0.0 2 Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 2 Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  WILLIAMETTE VALLEY STREAMS  SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 **Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3					0.0	, 0.0		0.0	3.2	4
Hungry Flat 3211 4400 4-29 0.0 0.0 0.0 0.0 0.0 0.0 2 Clear Leke <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  WILLAMETTE VALLEY STREAMS  SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3										
Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3  WILLAMETTE VALLEY STREAMS  SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3										
SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15 Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3							0.0			
SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3	Clear Lake?	361	3500	4-29	17.1	7.8		7.1	13.9	3
SANDY RIVER <sup>1</sup> Phlox Point 452 5600 4-30 138.4 70.8 72.3 62.8 61.4 15  Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14  *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3	ATTEMPOOR TETTO	CMD SAMO								
Phlox Point       452       5600       4-30       138.4       70.8       72.3       62.8       61.4       15         Still Creek       451       3700       4-30       47.2       21.2       14.3       11.0       15.4       14         *Clear Lake3       361       3500       4-29       17.1       7.8        7.1       13.9       3	WILLIAMETTE VALLET	SIRLAMS								
Phlox Point       452       5600       4-30       138.4       70.8       72.3       62.8       61.4       15         Still Creek       451       3700       4-30       47.2       21.2       14.3       11.0       15.4       14         *Clear Lake3       361       3500       4-29       17.1       7.8        7.1       13.9       3	SANDY RIVER									
Still Creek 451 3700 4-30 47.2 21.2 14.3 11.0 15.4 14 *Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3		452	5600	4-30	138.4	70.8	72.3	62.8	61.4	15
*Clear Lake <sup>3</sup> 361 3500 4-29 17.1 7.8 7.1 13.9 3			-							
	*Clear Lake3									
reference fartly estimated	a <sub>Telegraphic</sub>				_		ted			

\*Not located directly on this drainage area.

<sup>2</sup>Course revised to 9 samples at 100 ft. Earlier records recomputed and available upon request.

3Course revised to 11 samples at 100 ft. Earlier records recomputed and available upon request.

Not strictly a part of the Willamette Drainage; these surveys are indicative of west slope conditions.



		<del></del>							
			SNOW COVER MEASUREMENTS						
				1954		I	Past Reco	ord	
DRAINAGE BASIN	No.		Date	Snow	Water			/ <del></del>	Years
and	or	T07	of				Content	-	of
SNOw COURSE	State	Elev.	Survey	(In.)	(In.)	1953	1952	Avg.	Record
WILLAPETTE VALLEY	STREAMS	(Cont'	1)						
CLACKAMAS RIVER									
*Clear Lake3	361	3500	4-29	17.1	7,8		7.1	13.9	3
Peavine Ridge	591	3500	5-1	38.0	17.8	17.2	18.0	17.8	3 9 2
Big Bottom	594	2118	5-1	0.0	0.0		0.0	0.0	2
Lake Harriet	595	2045	5-1	0.0	0.0		0.0	0.0	2
SANTIAM RIVERS									
Hogg Pass	351	4755	5-1	86.6	43.4	48.7	55,8	56.0	7
Santiam Junction	552	3990	5 <del>-</del> 1	18.1	8.4	16.3		18.6	6
Marion Forks	553	2730	5-1	0.0	0.0	0.0	0.0	3.9	5
Whitewater Bridge		2175	5-1	0.0	0.0	0.0	0.0	0.0	3
Detroit(new town)		1500+	5-1	0.0	0.0	0.0	0.0	0.0	_
Detroit Dam	556	1580	5-1	0.0	0.0	0.0	0.0	0.0	3
Hill City	557	826	5-1	0.0	0.0	0.0	0.0	0.0	3
Snow Line: 3000'									
McKENZIE RIVER									
Hogg Pass	351	4755	5-1	86.6	43.4	48.7	55.8	56.0	7
Santiam Junction	552	3990	5-1	18.1	8.4	16.3	22.0	18.6	6
MIDDLE FORK WIL	LAPETTE I	RIVER							
Willamette Pass	323	5600	5-4	89.3	48.4	51.4	62,0	51.1	
Cascade Summit	321	4880	5-1	52.7	25.7	30.2	37.2	32.4	
Salt Creek Falls	523.	4000	5-1	24.3	10.0	14.6	18.6	16.9	4
Railroad Overpass		2750	5-1	0.0	0.0	0.0		0.0	
McCredie Spring	525	2120		0.0		0.0		0.0	4
Oakridge	526	1310		0.0	0.0				_
Meridian Dam	527	750	5-1	0.0	0.0	0.0	0.0	0.0	3
Snow Line: 3600'									
OREGON A	N D C A	LIF	<u>RNI</u>	<u>A</u> <u>C</u> <u>C</u>	OAST	<u>D</u> <u>R</u> <u>A</u>	I M A G	E	
UPPQUA RIVER									
Windigo Pass <sup>2</sup>	744	5800	5-4	87.2	46.1	53.7	66.3	54.4	5
Diamond Lake	743		5-1						
North Umpqua	742		5-1		0.0		previou		
24N-4-7	-47	41-1-1							

<sup>\*</sup>Not located directly on this drainage area.

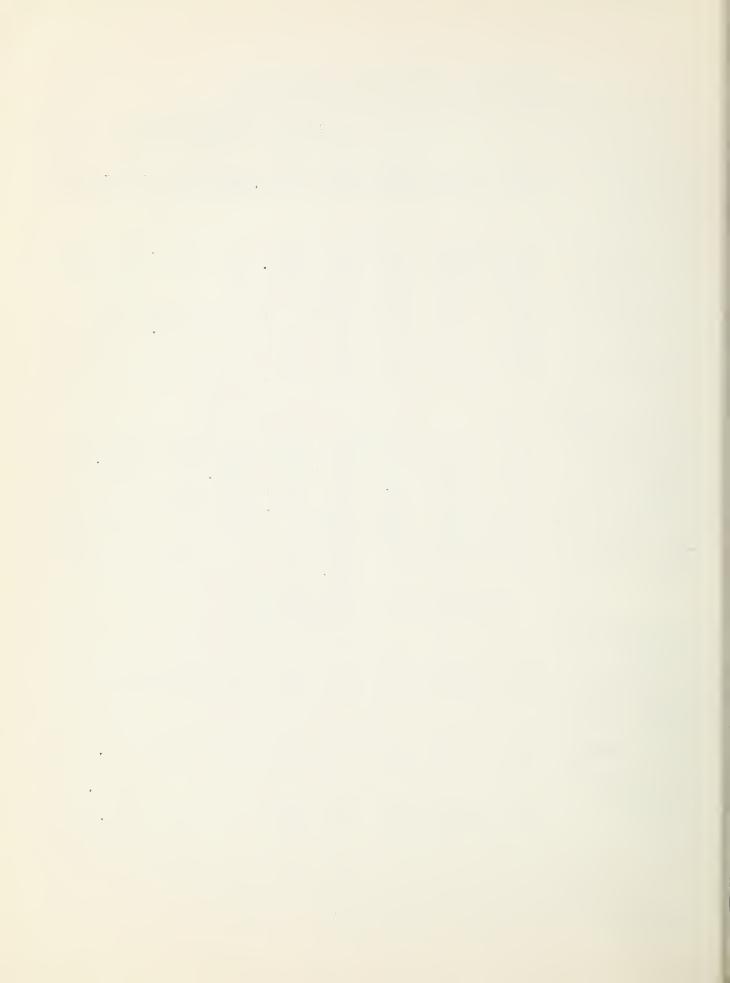
aTelegraphic 2Course revised to 9 samples at 100 ft. Earlier records recomputed and available upon request.

<sup>3</sup> Course revised to 11 samples at 100 ft. Earlier records recomputed and available upon request.



				SNO	OW COVER	MEASUF	REMENTS		
				1954	J., 00,1240		ast Reco	rd	
DRAINAGE BASIN	No.		Date	Snow	Water	7.7	<u> </u>	( <del>-</del> )	Years
and SNOW COURSE	or State	Elev.	of Survey		Content (In.)	<u>Water</u> 1953	1952		of Record
<u> </u>	Duave	TTCA.	Dai ve.y	(1110)	(111.)			Ave.	record
ROGUE RIVER	•								
*Park Headquarters	838	6450	5-1	118.1	60.8	71.5	92.9	63.1	10
*Annie Spring	831	6018	5-1	86.5	43.0	51.8	73.7	43.5	13
*Fourmile Lake	7223	6000	5-1	29.5	11.2	25.6		25.6	1
Billie Creek Div.	722	5300		measu		17.2		17.9	5
Hobart Lake	7221	5010	5-1	0.0	0.0	-	revious		
*Hyatt Prairie Res. Fish Lake	723	4900	5-1	0.0	0.0	<u></u>	0.0	2.2	4.
Silver Burn	725	4865	5-1	0.0	0.0	2.0		3.9	4
South Fork Canal	7219 7218	3720	5 <b>-1</b>	0.0	0.0	1.3		2.6	3 2
South Fork Canal	1270	3500	5-1	0.0	0.0	0.0		0.0	2
KLAMATH LAKE BASIN									
Park Headquarters	838	6450	5-1	118.1	60.8	71.5	92.9	63.1	10
Annie Spring	831	6018	5-1	86.5	43.0	51.8	73.7	43.5	13
Fournile Lake	7223	6000	5-1	29.5	11.2	25.6		25.6	í
Strawberry	837	5600	5-1	0.0	0.0	No pr	revious :		
*Quartz Mountain	811	5320	5-1	0.0	0.0	0.0	0.0	T	8
Billie Creek Div.	722	5300	Not	measu	red	17.2		17.9	5
Lake of the Woods	835	4960	4-30	9.9	3.9		12.1	6.0	7
Hyatt Prairie Res.	723	4900	5-1	0.0	0.0		0.0	2.2	4
Chemult	834	4760	5-1	0.0	0.0	0.4	1.2	0.4	7
	<u>I</u>	N T E R	I O R	DRA	INAG	E			
GOOSE LAKE BASIN									
Strawberry	837	5600	5-1	0.0	0.0	-	evious	record	
Quartz Mountain	811	5320	5-1	0.0	0.0	0.0	0.0	0.0	3
CHEWAUGAN RIVER									
*Quartz Mountain	811	5320	5-1	0.0	0.0	0.0	0.0	0.0	3
HARNEY BASIN									
Izee Summit	964	5293	4-28	0.0	0.0			7.0	2
Starr Ridge	247B	5156	4-28 4-28	0.0	0.0			1.0	3 3
	~412		4 -20	0.0	0.0			0.0	)

<sup>\*</sup>Not located directly on this drainage area. aTelegraphic



## OREGON PRECIPITATIONa

		FALL		NTER	SPRING		
DRAINAGE	-	tOct	Mar.	JanFeb 1953-154	April 1954		
DIVISIONS	Average	Departureb	Average	Departure <sup>b</sup>	Average	Departure	
Southeastern	1.50	-1.15	3.85	-0.80	0.68	-0.16	
Blue Mountains	3.15	-1.76	6.81	-1.57	1.37	-0.09	
Wallowa Mountains	3.24	-1.58	5.81	-1.10	2.01	+0.31	
Lower Columbia	3.58	-1.79	10.88	<b>*</b> 2.33	0.82	-0.40	
Upper Deschutes	3.49	-0.45	7.93	+1.63	0.40	-0.49	
Willamette Valley	15.11	-1.93	33.26	+4.97	4.18	+0.61	
Southwestern	9.34	+1.71	15.94	+2.29	1.74	+0.22	
South-Central	3.51	-0.39	6.93	+0.82	0.78	-0.06	

Southeastern - Owyhee and lower Malheur drainages.

Blue Mountains - Upper valleys of the Umatilla, John Day and Malheur, and the Powder, Burnt and Silvies drainages.

Wallowa Mountains - Imnaha, Wallowa and Catherine drainages.

Lower Columbia - Lower valleys of the Walla Walla, Umatilla, John Day and Deschutes, and the Hood and Sandy drainages.

<u>Upper Deschutes</u> - Upper Deschutes and Crooked drainages.

Willamette Valley - All Willamette drainages.

Southwestern - Umpqua, Rogue and Williamson drainages.

South-Central - Sprague, Lost and Interior Basin drainages.

Note - Precipitation shown in inches.

a - Preliminary analysis furnished by U. S. Weather Bureau.

Departure from 10-year (1942-51) drainage division average.



The following organizations cooperate in the Oregon snow survey work:

#### STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and corps of State Watermasters
Oregon State Highway Engineers
Soil Conservation Districts of Oregon

#### FEDERAL

Department of Agriculture
Cooperative Extension Service
Forest Service
Soil Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
Department of National Defense
Army Engineer Corps

#### PUBLIC UTILITIES

California-Pacific Utilities Company Pacific Power and Light Company Portland General Electric Company The California Oregon Power Company

#### MUNICIPALITIES

City of Baker City of La Grande City of The Dalles City of Walla Walla

#### IRRIGATION DISTRICTS

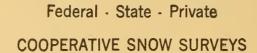
Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
East Fork Irrigation District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users, Incorporated
Medford Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Vale-Oregon Irrigation District
Warmsprings Irrigation District

### PRIVATE CRGANIZATIONS

Amalgamated Sugar Company
The Crag Rats, Hood River, Oregon







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"